



Australian Bureau of Statistics

Education Services

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Resources



GEO 08 – Population Structure: Interpretation of Population Pyramids

You can download this activity as a rich text file (RTF) using the links at the bottom of the page.

Subject Area

Geography

Suggested Level

Years 9–10

Overview

The activity explores changes to the structure of Australia's population over time and how this is reflected in the shape of the population pyramid. The implications of an aging population in Australia are raised. Comparison between countries enables students to develop a theory based upon the shape of population pyramids.

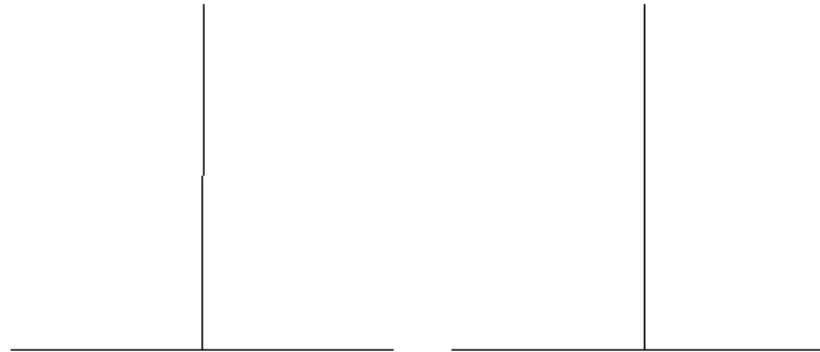
Requirements

- Computer
- Internet connection
- To view the dynamic population pyramids on the ABS website you will need an Adobe SVG viewer to be installed on your computer. Download and installation instructions are provided at [View SVG Content](#).

Instructions

6.1 Population Pyramids

1. Review the concept of population structure with the students (see GEO_07).
2. Explore the changes to Australia's population structure from 1971 to 2056 using the Animated Population Pyramids.
3. Summarise the changes in the shape by creating two sketches of the Australian population pyramid in 1971 and the projected shape of the pyramid in 2056.



Sketch of Pyramid in 1971
Sketch of Pyramid in 2056

6.2 Interpreting Population Pyramids

1. Ask students to work in small groups and brainstorm reasons for the changing shape of the population pyramid for Australia between 1970 and 2056.
2. Summarise the ideas under the headings of social, historical, environmental, economic, and political factors that affect the shape of a population pyramid. Ask students to respond to the following question: 'Describe and explain the changing shape of the Australian population pyramid between the years 1971 and 2056.'
3. Define the meaning of the term 'baby boomers' and identify how this group changes on the population pyramid between 1971 and 2056.
4. Discuss the implications for Australia of an aging society.
5. Social, historical, environmental, economic and political circumstances of an area will affect the demographic characteristics of a population and hence its population pyramid. Test the understanding of students by asking them to sketch a pyramid for the following locations:
 - 5.1 A coastal town with a large number of retirees.
 - 5.2 A rural area where many young people have left to undertake tertiary studies.
 - 5.3 A small town with a tertiary institution.
 - 5.4 A region devastated by war.

5.5 A mining town with an influx of young males.

6.3 Developing a Theory

1. Ask students to explain their understanding of the terms 'industrialised country' and 'developing country'.
2. Ask students to hypothesise what they expect a population pyramid to look like for an industrialised and a developing country.
3. Working in groups, ask students to identify examples of both economically developed and less economically developed countries. When the students have compiled their list of countries, direct them to the US Census Bureau website to download pyramids for different countries and time periods.
4. Using a range of population pyramids, students should be able to establish the accuracy of their hypothesis.

Extension

7.1 Demographic Transition Model

Explore the manner in which population pyramids change over time by using the US Census Bureau website. Link the changes to the demographic transition model.

7.2 Dependency Ratio

1. Calculate the ratio of economically inactive to economically active population to establish the dependency ratio for Australia in 1970 and 2040. (see Glossary).
2. How does the ratio for Australia change over time?
3. Compare the dependency ratios for selected economically developed and economically less developed countries?

Glossary

Aging of the population

Aging of the population is the consideration of the proportion of the population aged 65 years and over, and the way this proportion is continuing to increase, mostly due to persistent low fertility rates and declining mortality rates.

Baby boom

Baby boom refers to the generation born between the end of World War II and the mid-1960s. Baby boomers are usually taken to be those born in the years 1946 to 1965 inclusive.

Crude birth rate

The crude birth rate is the number of live births registered during the calendar year per 1,000 estimated resident population at 30 June of that year.

Crude death rate

The crude death rate is the number of deaths registered during the calendar year per 1,000 estimated resident population at 30 June.

Dependency ratio

Dependency ratio - the ratio of the dependent population (aged 0-14 years and 65 years and over) to persons of working age (15-64 years), usually expressed as a percentage.

Life expectancy

Life expectancy refers to the average number of additional years a person of a given age and sex might expect to live if the age-specific death rates of the given period continued throughout his/her lifetime.

References

Note: Links to ABS publications are to the most recent release. Previous releases can be accessed by selecting the 'Past & Future Releases' tab.

Australian Bureau of Statistics, Population Clock

US Census Bureau

Download the Activity

Student Activity



Geo_08 Pop Structure-Interpretation of Pop Pyramids_Student Worksheet.rtf

Teacher Solutions



Geo_08 Pop Structure-Interpretation of Pop Pyramids_Teacher Answer Sheet.rtf

Rubric



Geo_08 Pop Structure-Interpretation of Pop Pyramids_Rubric.rtf

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